IX 4000 L, IX 4000 H
Colour Camera

Installation&
Operation Manual

Vicon Industries Inc. Does not warrant that the functions contained in this equipment will meet your requirments or that the operation will be entirely error free or perform precisely as discribed in the documentation. This system has not been designed to be used in life critical situations and must not be used for this purpose.

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VICON

Dear Customer!

By selecting this VICON product you have chosen a professional device which guarantees highest possible quality and reliability. We like to thank you very much for your confidence in our products and kindly ask you to read the following instructions carefully before commissioning the product in order to be able to take full advantage of all quality features regarding this product line.

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General Information

Safety Precautions

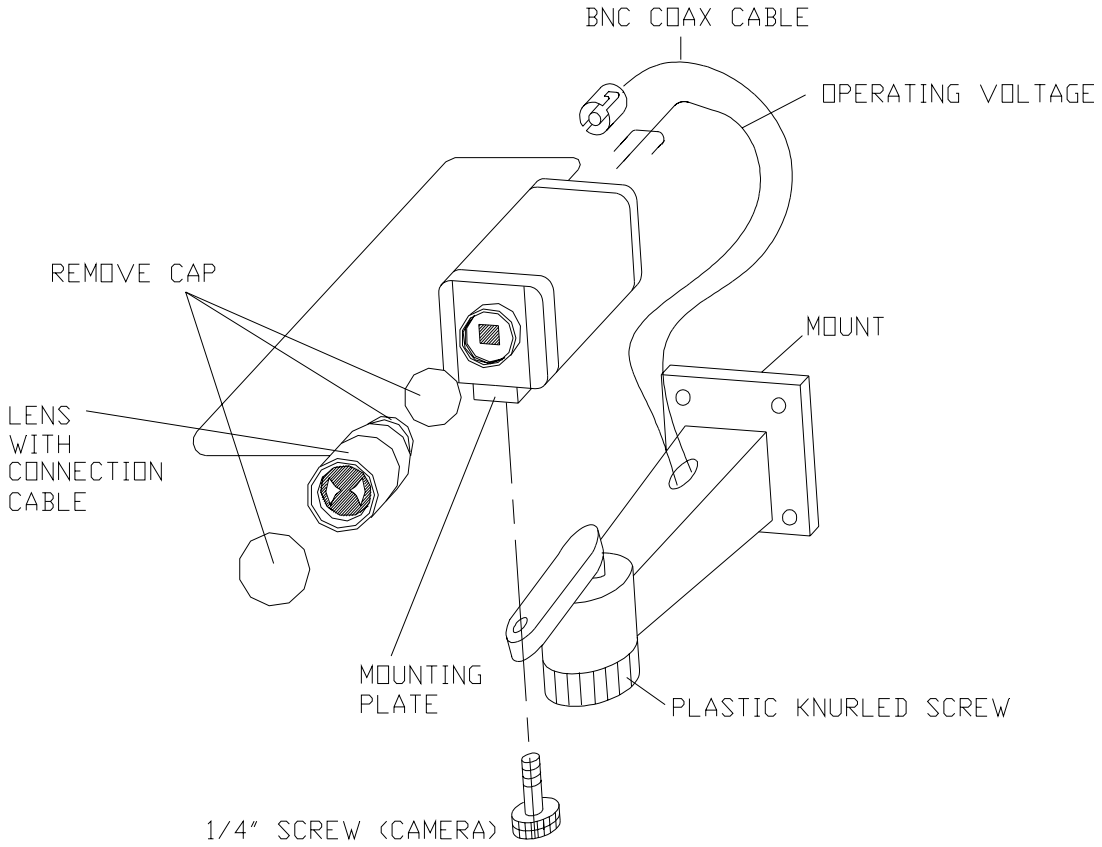
- Read these instructions carefully before commissioning the camera in order to avoid damages caused by improper installation or use.
- Installation may only be carried out by authorised personnel according to the local safety regulations.
- Operate the camera with the designated voltage only.
- Follow the safety instructions attached to the camera.
- Never use the camera for other purposes than designated.
- Repairs and adjustments at the camera may only be carried out by authorised personnel.
- In case of ourdoor use you have to install the camera in a suitable weather protection case incl. heating element.
- If any liquid or solid matter should get into the housing, disconnect the camera from power supply and have it checked by your authorised dealer before re-using (danger of electronic shock!).
- Do not disassemble the camera. To avoid electric shocks, never remove screws or covers. There are no user-serviceable parts inside it. All maintenance may only be carried out by authorised personnel according to the local safety regulations. Install the camera by a least height of 2.30 m.

Composition

1. Auto Iris Lens Plug
2. Remote Plug
3. L-Wrench
4. C-Mount Adapter
5. Instruction Manual

Mounting the Camera

Mounting the Camera to a Wall Mount



Commissioning the Camera

Tips for Camera Location

1.0 To avoid internal overheating:
- never expose the camera to direct sunlight without additional camera housing
- keep sufficient distance to direct heat sources.

2.0 Never install the camera at humid, oily or dusty locations without using an additional housing. (without additional housing the camera is not suitable for outdoor use!)

3.0 The camera should be installed out of reach (min. height: 2.30 m)

4.0 Do not aim the camera towards indoor lighting, the windows, the sunlight or the sky (to get good pictures, camera and light should be aimed towards the object)

5.0 Reduce the picture detail to the essential parts of the picture and place the camera as close as possible to the object (a smaller picture detail guarantees sharper details).

6.0 Do not aim the camera towards a window but instead towards the room.

7.0 Outdoors the camera should be placed as high as possible so that the horizon does not appear in the picture.

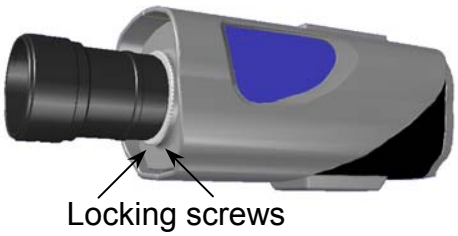
8.0 Avoid peak light as background (also caused by reflections, e.g. window panes).

wrong **right**

Adjustment of Back Focus

This adjustment should only be carried out, if the lens cannot be focused properly using the lens focus ring. For such a case proceed as follows:

1 Loosen the Allan head screw with the attached Allan head key. For large distances, turn the focus ring of the lens almost (0.5 cm) to the "endless" limit position. If you need to focus an object near the camera, turn the focus ring of the lens to a position 1cm before the "near" limit position.



2 Use the back focus adjustment screw to adjust the distance between lens and CCD chip until the picture is in focus. Then fix the Allan head screw using the Allan head key.

3 Finally, focus the picture using the lens focus ring.

Adjustment of ES / DC Lenses

To adjust a lens with automatic iris (DC driven or video driven) to the camera, please proceed as follows:

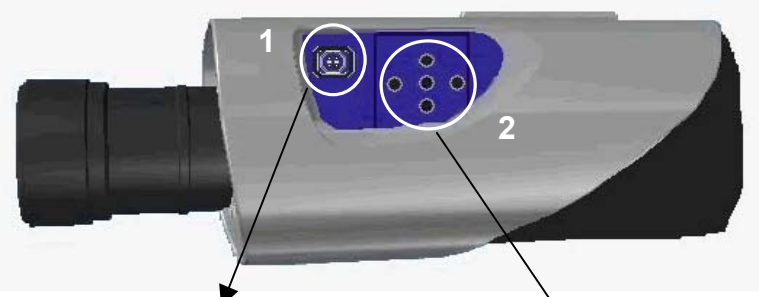
1. Turn the level potentiometer (position: ES lenses at the lens itself, DC lenses: at the camera) to the max. position H (turn right). The monitor picture then appears to be too bright.
2. Slowly turn the level potentiometer back until the monitor picture appears to be perfect and is not too bright anymore. Then turn the potentiometer back to the right (in direction "H") just a little bit.
3. Check the lens performance by using the camera under different and/or changing light conditions.

Focusing the Camera Lens

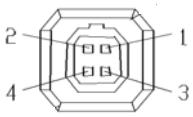
After you have selected the correct picture detail you have to adjust the lens focus. The focus adjustment needs to be done with the iris fully open, since the camera has the smallest depth of focus in this position. If the focus adjustment was not done with the iris completely open, the picture would be sharp during the day but slowly getting out of focus the more the light disappears. To fully open the lens, use a grey filter in front of the lens, provided you are using a lens with automatic iris. Adjust the focus while the iris is fully open using the lens focus ring. Make sure the most important picture details are in optimum focus (use a service monitor). If it is not possible to bring the picture into focus, please adjust the back focus of the camera as described above.

If you intend to use I.R. illumination at a later stage, you must use an I.R. pass filter together with the grey filter during focus adjustment to ensure that only I.R. light will get through to the camera chip and the focus adjustment is done according to this spectrum, only. Attention: I.R. light can only be used in combination with mono cameras, not colour cameras!

Circuit points and operation

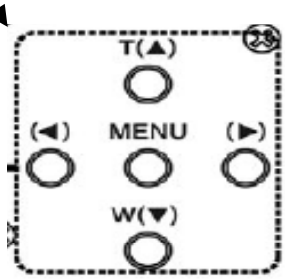


1. Lens connector
2. Menu buttons



DC - Lens

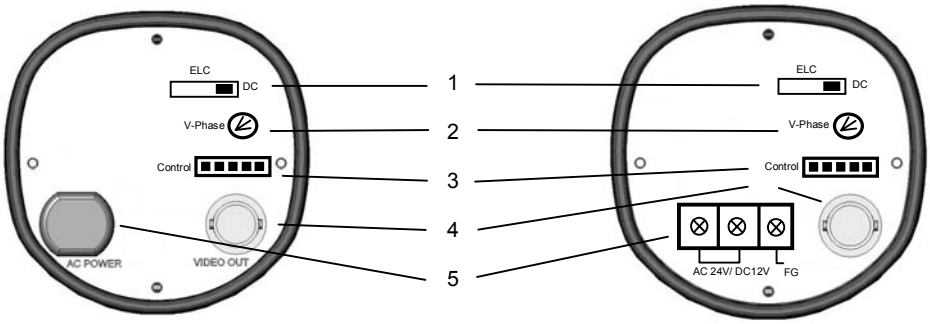
1. Controll -
2. Controll +
3. Drive+
4. Masse



Attention:
This camera comes with a four times electronic zoom. With the buttons ⇑(Tele) and ⇓(Wide) you can operate the zoom function. With activated WDR function the electronic zoom is not possible!

Rear View

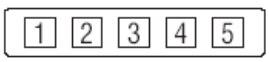
Rear View IX 4000H



Rear View IX 4000L

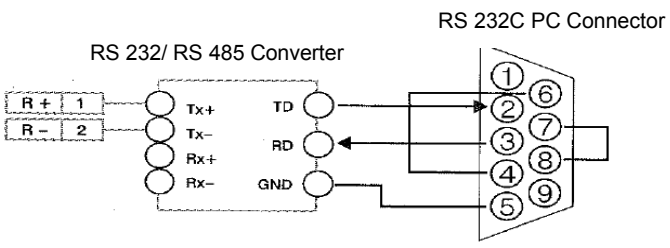
1. Auto Shutter / DC Lens
2. LL Phasen adjust
3. Control (Remote) Connector
4. Video Out
5. Power input

Remote Jack



No.	Function
1	R+ (RS-485)
2	R− (RS-485)
3	DAY/NIGHT OUTPUT "H"
4	GND
5	DAY/NIGHT INPUT (EXT) "L"

PC Interface



Belegung:

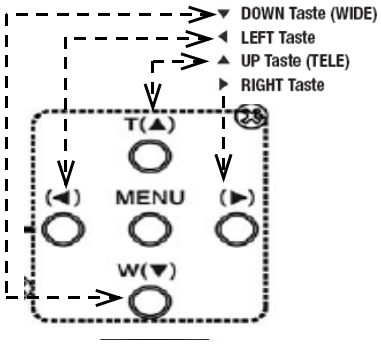
1. Frame GND
2. RD
3. TD
4. DTR
5. Signal GND
6. DSR
7. RTS
8. CTS
9. RI

Camera Configuration

Menu:

GENERAL	CAMERA ID	000 ~ 255
	ZONE LABEL	SET
	NEGA/POSI	POSITIV / NEGATIV
	SHARPNESS	0 ~ 15
	MIRROR	NORMAL, MIRROR, VERTIKAL, ROTATE
	FREEZE	ON, OFF
	INITIAL	ON, OFF
	EXIT	
AWB	WB MODE	AUTO, HOLD, USER
	RED CONT	NOT USE (AUTO, HOLD), 1 ~ 255 USER
	BLUE CONT	NOT USE (AUTO, HOLD), 1 ~ 255 USER
	PUSH AUTO	NOT USE (AUTO, USER), OFF PUSH (HOLD)
	INITIAL	ON, OFF
	EXIT	
AE	BRIGHTNESS	0 ~ 60
	FLICKERLESS	ON (PAL 1/100, NTSC 1/120)
	SHUTTER SPD	1/250,1/500,1/1000,/1/2000,1/4000,1/10000
	AGC MAX SET	AGC OFF, LOW, MID, HIGH
	MAX FLD SET	OFF,2~20FLD,40FLD,80FLD,160FLD
	INITIAL	ON, OFF
	EXIT	
D&N	D/N MODE	AUTO, DAY, NIGHT, EXT
	LEVEL	0 ~ 200
	FILTER DLY	0 ~ 15 SEC
	INITIAL	ON, OFF
	EXIT	
WDR	WDR MODE	ON, OFF
	WDR LEVEL	0 ~ 15
	BACK LIGHT	ON, OFF
	BLC LEVEL	0 ~15
	INITIAL	ON, OFF
	EXIT	
PRIVACY	AREA	1 ~ 4
	MASK	ON, OFF
	START X	
	END X	
	START Y	
	END Y	
	INITIAL	ON, OFF
	EXIT	
DISPLAY	CAMERA ID	ON, OFF
	ZONE LABEL	ON, OFF
	VERSION	
	INITIAL	ON, OFF
INITIAL	OFF STATE	
EXIT		

Setting Up The Menu



Press the MENU button to access the GENERAL mode. Chage menu Point using the UP and Down buttons. Change the status using the the LEFT / RIGHT buttons.

General	
CAMERA ID	000
ZONE LABEL	SET
NEGA/POSI	POSI
SHARPNESS	7
MIRROR	NORMAL
FREEZE	OFF
INITIAL	OFF
EXIT	

Camera ID:
In this Menu a number can be assigned to the camera (000 bis 255) wich will be displayed on the monitor. Therefor the function CAMERA ID must be switched on in the DISPLAY MENU.

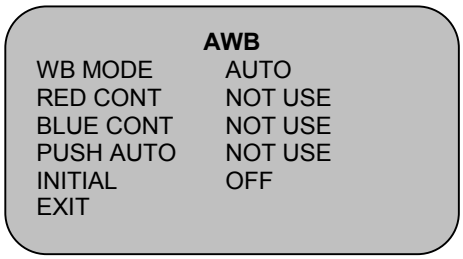
Zone Label:
A title can be assigned to the picture. You can enter up to 10 characters. Move the curser to character-enter location by using the LEFT / Right buttons. Select the desired character by using the UP / DOWN buttons.
The factory default characters are:
A~Z, a~z, 0~9, ~, !, #, *, -, +, /, :, ;, ?, ., “, _, (,),&, %, ⇑, ⇓, ⇒, ⇐,
EXIT: Return to GENERAL MENU
If the DISPLAY MENU feature iss et to ZONE LABEL – ON, the name will be displayed on the monitor.

NEGA/POSI:
Select Nega / Posi for a negativ or positiv screen display.

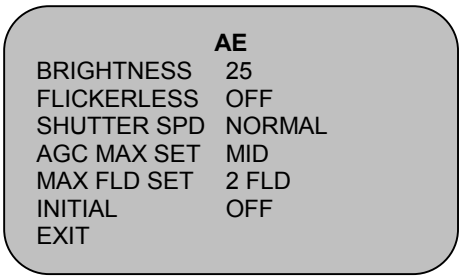
SHARPNESS:
Adjust the sharpness of the screen.

MIRROR:

Normal:	Deactivation
Mirror:	Reverse turn Left or Right
Vertikal:	Reverse turn Up or Down
Rotate:	Rotate the screen to 180°
Freeze:	Used when paused video is needed
Initial:	INITIAL GENERAL MODE
Exit:	RETURN to MAIN MENU



WB MODE:
The following „White Balance“ functions can be selected:
AUTO:
White Balance is automatically set between 2500°K~9500°K
HOLD:
If PUSH AUTO is selected as ON, it fixes up the value setting the current WB
USER:
Manual WB. WB gains can set by using RED CONT, BLUE CONT
INITIAL:
INITIAL AWB MODE
EXIT:
RETURN to MAIN MENU



BRIGHTNESS:
Set up the desired brightness value. 0 ~ 60 BRIGHTNESS Level can be adjusted.

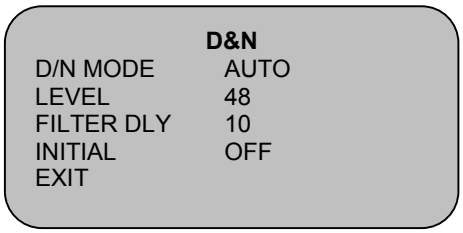
FLICKERLESS:
ON (PAL 1/100Sec., NTSC 1/120Sec.), OFF

SHUTTER SPD:
You can set a steady Shutter. NORMAL: 1/50 Sec. PAL / 1/60 Sec. NTSC. Furthermore, the following values are possible: 1/250Sec., 1/500Sec., 1/1000Sec., 1/2000Sec., 1/4000Sec., 1/10000Sec..

AGC MAX SET:
OFF: AGC deactivated
LOW: Gain is increased or decreased from 0 to 10dB automatically according to the illumination.
MID: Gain is increased or decreased from 0 to 20dB automatically according to the illumination.
High: Gain is increased or decreased from 0 to 30dB automatically according to the illumination.

INITIAL:
INITIAL AE MODE

EXIT:
RETURN to MAIN MENU



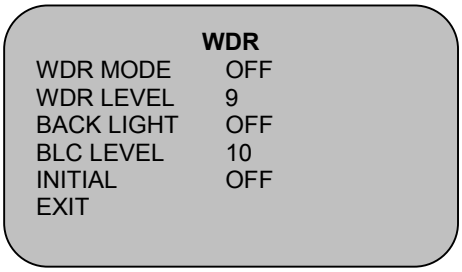
D/N MODE:
AUTO:
Depending on the illumination, the filter moves automatically in or out.
DAY:
The IR filter is always activated, colour image replication.
NIGHT:
The IR filter is always deactivated, b/w image replication
EXT:
The IR filter will be controlled by an external contact

LEVEL:
This level is setting up the turning point of the filter.
The following values are reference values:
15: ~40Lux, 28: ~30Lux, 48: ~20Lux, 88: ~10Lux, 128: ~5Lux, 200: ~1Lux
Please set up the value higher when you install this camera into the housing (example: Level 128)

FILTER DLY:
According to user´s need, the turning delay time of 0 ~ 15 sec. can be given. This value prevents the constant turning of the filter, eg. if cars with switched on lighting are driving past.

INITIAL:
INITIAL D & N MODE

EXIT:
RETURN to MAIN MENU



WDR MODE:
ON / OFF

WDR LEVEL:
This value sets the level of the WDR regulation. 0 ~ 15 Ranged and adjust the brightness in WDR Mode.

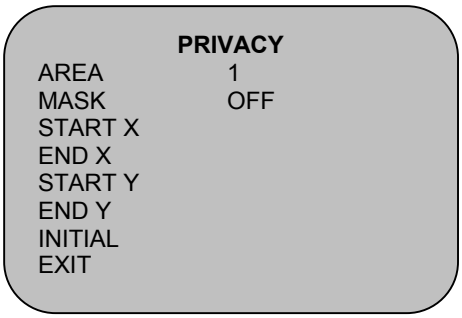
BACK LIGHT:
ON / OFF

BLC LEVEL:
With this value the BLC Gain will be set. 0 ~ 15 Ranged and adjust the BLC Gain.

Attention: *A combination of both functions is not possible!*

INITIAL:
INITIAL D & N MODE

EXIT:
RETURN to MAIN MENU



AREA:
Total 4 categories can be designated.

MASK:
Marks the area on the screen in state of ON.

START X:
Indicates the starting point on X axis.

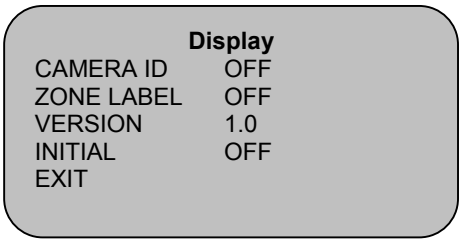
END X:
Indicates the ending point on X axis.

START Y:
Indicates the starting point on Y axis.

END Y:
Indicates the ending point on Y axis.

INITIAL:
INITIAL PRIVACY MODE

EXIT:
RETURN to MAIN MENU



CAMERA ID:
To activate the CAMERA ID, so that this becomes visible on the screen.

ZONE LABEL:
To activate the 10-figure name of the camera, so that this becomes visible on the screen.

VERSION:
Camera Version

INITIAL:
INITIAL DISPLAY MODE

EXIT:
RETURN to MAIN MENU

Exhibit

Troubleshooting

Error	*Cause*
No picture	- No operating voltage (check red LED) - Coaxial connection interrupted (check video cable)
The picture is noisy	- Insufficient light - The lens drive of the used lens (DC / AI) is not properly adjusted to the camera (level too low)
The picture is too bright	- The lens drive of the used lens (DC / AI) is not properly adjusted to the camera (level too high) - Too much peak light; change camera location or activate backlight function of the camera
The picture is not sharp	- Focus not adjusted properly - Back focus not adjusted properly - When used outdoors: heater defective; front pane of camera housing gets steamy
The picture is distorted	- Different GND potentials between camera and monitor; use opto coupler (e.g. VPT from videotronic) - Bad connections
Ghost image	- Wrong 75 Ω termination - Shield of video cable interrupted
Synchronisation of cameras does not work properly	- No or bad linelock connection between camera (12 V/DC version) and power adapter - Mains plug twisted; turn the mains plug by 180° to change the linelock phase

Please contact your authorised dealer with an exact failure description if none of the above remedy measures fixes your problem.

Technical Specifications

Model	IXION 4000L / H (PAL)
CCD SENSOR	2:1 Interlace transfer 1/3“ Double Scan CCD
Effective Pixels	752 (H) x 582 (V)
Reolution	480 TV-Lines
Sensitivity	0,1Lux (Normal Mode) 0.001Lux (2x DSS, b/w Mode)
Onscreen Display	yes
Signal to Noise Ratio (SNR)	> 50dB (AGC Off/ B/W Mode)
AGC	adjustable, off 10 dB, 20 dB, 30 dB
Synchronisation	Linelock at 24 VAC/ Intern at 12VDC and 230VAC
Backlight / WDR	WDR and BLC adjustable
Day Night	Colour/ B/W / Auto (Filter Auto Change) / Ext via contact
Flickerless	yes 1/ 100 Sek.
Auto Shutter	1/50 Sec. ~ 1/10000Sec.
White Balance	AWB 2500°K~9500°K / MWB / Push Auto
Sens up / DSS	2~20FLD,40FLD,80FLD,160FLD
RS 485	yes
Video output signal	Composite $1V_{SS,}$, 75 Ohm
Private zones	yes 4 independently adjustable
Picture Flip	up / down, left / right, 180°
Elektr. Zoom	yes
Lens Mount	DC CS Mount, C Mount (incl. adaptor ring)
Power	IXION 4000L: 12V DC / 24VAC, max 0,5A (6W) IXION 4000H: 100 VAC ~ 240 VAC, 6W
Operating Temperature	-10°C ~ +50°C (**recommended** -5°C ~ +40°C)
Dimensions	65 x 65 x 125 mm
Weight	~ 430g

Cleaning and Care

Before you start to clean the camera body, disconnect the unit from power supply. For reasons of electrical safety never clean the camera with water or other liquid matters and never put the camera under water. To clean use a soft dry cloth. Cleaning the camera inside is strictly forbidden and may only be done by your authorised dealer.

Since all camera functions are self adjusting and the camera does not contain any parts or components that are subject to wear we advise you not to open the camera (except for the flap for settings), unless the camera appears to be defective.

Make sure to include these instructions when handing the camera over to third parties.

Technical Support

Should you have any problems during installation you can reach our Technical Hotline under the following telephone number: +44 (0) 1489 - 566 300.

Shipping Instructions:

Use the following procedure when returning a unit to the factory:

1. Call or write Vicon for a Return Authorization (R.A.) at one of the locations listed below. Record the name of the Vicon employee who issued the R.A.

   Vicon Industries Inc.
   89 Arkay Drive
   Hauppage, NY 11788
   Phone: 631-952-CCTV (2288); Toll Free: 1-800-645-9116
   Fax: 631-951-CCTV (2288)

   For service or returns from countries in Europe, contact:

   Vicon Europe Ltd:
   Brunel Way
   Fareham, PO 15 5TX
   United Kingdom
   Phone: +44 (0) 1489 566 300
   Fax: +44 (0) 1489 566 322

2. Attach a sheet of paper to the unit with the following information:
   a. Name and address of th ecompany returning the unit
   b. Name of the Vicon employee who issued the R.A.
   c. R.A. number
   d. Brief description of the installation
   e. Complete description of the problem and circumstances under which it occurs
   f. Unit's original date of purchase, if still under warranty

3. Pack the unit carefully. Use the original shipping carton or ist equivalent for maximum protection.

4. Mark the R.A. number on the outside of the carton on the shipping label.

Vicon Industries Inc.

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